UNCLASSIFIED

Data Science at Scale School Speaker Series

Prof. Hans Hagen
TU Kaiserslautern

Visualization - Simulation - Scientific Computing

Challenges and Opportunities

Wednesday, October 1, 2014

9:00 - 9:30AM

TA-3, Bldg. 200, Room 116 (ACL Conference Room)

Abstract: Scientific Visualization is the transformation of digital data, derived from observation or simulation, into readily comprehensible images, and has proven to play an indispensable part of the scientific discovery process in many fields of contemporary science. Since its inception two decades ago, the techniques of Scientific Visualization have aided scientists, engineers, and others in the study of a wide variety of data including, for example, high-performance computing simulations, measured data from scanners (CT, MR, confocal microscopy, satellites), internet traffic, and financial records. One of the important themes being nurtured under the aegis of Scientific Visualization is the utilization of the broad bandwidth of the human sensory system in steering and interpreting complex processes and simulations involving voluminous data across diverse scientific disciplines. Since vision dominates our sensory input, strong efforts have been made to bring the mathematical abstraction and modeling to our eyes through the mediation of computer graphics. This interplay between various application areas and their specific problem-solving visualization techniques is a central part of the Los Alamos - Kaiserslautern cooperation.

Biography: Hans Hagen is a full professor at the Technical University of Kaiserslautern and an adjunct professor at the University of California/Davis. He is also the scientific director of the institute on Intelligent Visualization and Simulation at the German Research Center for Artificial Intelligence (DFKI). He holds a Ph.D. in mathematics from the University of Dortmund, a B. S. and M. S. in mathematics and a B. S. in computer science from the University of Freiburg. Prior to his current position, he was an associate professor at the TU Braunschweig and he had several visiting positions, especially in the USA. His research interests include all areas of scientific visualization, computer graphics and geometric modeling. He was editor in chief of the IEEE Transactions on visualization and computer graphics from 1999-2003 and is an associated editor of CAGD, Computing and Surveys on Mathematics in Industry. Prof. Hagen has published nearly 200 articles in scientific visualization, computer graphics, geometric modeling and geometry and is a member of ACM, GI, IEEE, and SIAM.

For more information contact the technical host Curt Canada, cvc@lanl.gov, 665-7453.

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